

552,354

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 November 2004 (18.11.2004)

PCT

(10) International Publication Number
WO 2004/098675 A2

- (51) International Patent Classification⁷: **A61M**
- (21) International Application Number:
PCT/US2004/013714
- (22) International Filing Date: 3 May 2004 (03.05.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/467,632 1 May 2003 (01.05.2003) US
60/526,625 2 December 2003 (02.12.2003) US
60/536,089 13 January 2004 (13.01.2004) US
- (71) Applicant (for all designated States except US): **THERMICS, LLC** [US/US]; 1 Clocktower Place #321, Nashua, NH 03060 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ROSIELLO, Keith, M.** [US/US]; 32 Deerfield Road, Shrewsbury, MA 01545 (US). **CLIBOURN, Douglas, L.** [US/US]; 35 Dole Hill Lane, Boxford, MA 01921 (US). **DONNELLY, Howard, W.** [US/US]; 395 Charles River Street, Needham, MA 02492 (US). **HENDERSON, Cabot, G., L.** [US/US]; One Clocktower Place, Apt. 321, Nashua, NH 03060 (US).
- (54) Title: **METHOD AND SYSTEM FOR WARMING A FLUID**
- (57) Abstract: The invention is directed generally to a method and system for controlling the temperature of a fluid, *i.e.*, warming or cooling a fluid, and more particularly, to a method and system for warming a fluid to be delivered to the body of a patient. In a preferred embodiment, a method and system for warming a fluid to be delivered into the body of a patient is provided and may include a controller and a fluid delivery-line. The fluid delivery-line may include an insulative tube and a fluid delivery tube positioned within the first tube and for communicating a fluid from a source to a destination. The fluid delivery-line may also include at least one thermal sensor positioned proximate the fluid delivery tube, a heating element positioned proximate the fluid delivery tube and a thermal medium positioned between the first tube and the second tube.
- (74) Agent: **MORENCY, Michel**; Greenberg Traurig, LLP, One International Place, Boston, MA 02110 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/098675 A2